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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,565	11/20/2003	Phillip Kaufman	IOR-001	3550
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PALMER & DODGE, LLP KATHLEEN M. WILLIAMS 111 HUNTINGTON AVENUE BOSTON, MA 02199			EXAMINER BAUER, SCOTT ALLEN	
			ART UNIT 2836	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/719,565

Applicant(s)

KAUFMAN, PHILLIP

Examiner

Scott Bauer

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-13 and 15-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-13 and 15-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

1. Claims 1, 2, 4-10, 13 & 19 are rejected under 35 U.S.C. 101 because the claimed invention is not supported by either a credible asserted utility or a well-established utility.

Reasons why the claimed invention is not supported by a credible asserted utility can be found in the previous Office Actions of 3/10/2006 and 09/19/2006. On page 11 of the Office Action dated 09/19/2006, it was stated that the claimed invention had a credible utility of preventing lightning strikes in an immediate area and thereby, modifying weather conditions. However, a further inspection of the specification and originally filed claims reveals that the application does not mention preventing lightning strikes as a utility of the device. On page 1 of the Specification, Applicant discloses in the background art that the system protects an area from thunderstorms by creating a volume charge in the atmosphere to influence cloud cover. However, this method would prevent thunderclouds from forming and makes no mention of preventing lightning from striking in the protected area. As stated in the previous actions influencing cloud cover above an area is not a credible asserted utility. As such the phrase "for modifying weather conditions" found in claims 1, 2, 13 & 19 is not supported by a credible asserted utility.

Claim Rejections - 35 USC § 112

2. Claims 1, 2, 4-10, 13 & 19 are also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either a credible asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims, 1, 2, 6, 9, 15, 17 & 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin et al. (US 1,617,788) in view of Fowler et al. (US 5,694,286).

With regard to claim 1, Baldwin et al., in Figs. 1, 2 & 11 teaches an antenna capable of electrifying and ionizing the atmosphere for modifying weather conditions to broadcast ions into the atmosphere so as to ionize the atmosphere (column 8 line 128-column 9 line 15), the antenna comprising: a plurality of peripheral nodes (where 12 & 44 meet); a central node (10) located within the plurality of peripheral nodes; a plurality of peripheral spokes (43) for connecting each of the peripheral nodes to adjacent

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peripheral nodes; a plurality of radial spokes (44) for connecting the peripheral nodes to the central node.

Baldwin et al. does not teach a direct current power supply associated with said antenna that provides the plurality of peripheral and radial spokes with a selected power signal to induce said antenna to broadcast ions into the atmosphere so as to ionize the atmosphere and induce changes in weather conditions.

Fowler et al., in Figure 1, teaches a lightning protection device wherein a direct current power supply (50) associated with an antenna (44) that provides the antenna with a selected power signal to induce said antenna to broadcast ions into the atmosphere so as to ionize the atmosphere and induce changes in weather conditions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Baldwin et al. with Fowler et al., by incorporating the ion generating system of Fowler into the device of Baldwin et al., for the purpose of effectively hiding the tank of Baldwin et al. from lightning strikes (Fowler et al. column 1 lines 55-57).

With regard to claim 2, Baldwin et al. in view of Fowler et al. discloses the device of claim 1. Fowler et al. further discloses that the antenna is capable of electrifying and ionizing the atmosphere for modifying weather conditions upon application of a selected power signal having a voltage value of between about zero volts and about positive 500 kilovolts and between about zero volts and about negative 500 kilovolts.

Fowler et al. does not disclose that the power signal has a current value of between about zero and about five hundred milliamps. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the current value of the power signal in order to provide a proper amount of ionization, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

With regard to claim 6, Baldwin et al. in view of Fowler et al. discloses the device of claim 1. Baldwin et al. further discloses that the height of the central vertical member decreases as the number of peripheral spokes increases (column 5 lines 64-column 6 line 1 & column 7 lines 37-46).

With regard to claim 9, Baldwin et al. in view of Fowler et al. discloses the antenna of claim 1. Baldwin et al. further discloses that the radial spokes and the peripheral spokes are formed from a medium for conducting electricity (column 5 lines 35-41).

With regard to claim 15, Baldwin et al. teaches a method for ionizing the atmosphere, the method comprising the steps of: providing an antenna that includes, a plurality of peripheral nodes, a plurality of peripheral spokes, a plurality of radial spokes, and a central node; peripheral spokes and radial spokes to ionize the atmosphere.

Baldwin et al. does not teach applying direct current electric power to the peripheral spokes and radial spokes.

Fowler et al., in Figure 1, teaches a lightning protection device wherein a direct current power supply (50) associated with an antenna (44) that provides the antenna with a selected power signal to induce said antenna to broadcast ions into the atmosphere so as to ionize the atmosphere and induce changes in weather conditions.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Baldwin et al. with Fowler et al. as described above.

With regard to claims 17 & 19, Baldwin et al. in view of Fowler et al. discloses the method of claim 15. Baldwin et al. further discloses that the step of inducing a discharge on the peripheral and radial spokes. Fowler et al. further discloses applying electrical power to supply an antenna with a voltage that induces a discharge wherein the step of controlling the electrical power applied comprises supplying one of a positive or a negative voltage to ionize the atmosphere in order to modify the weather conditions

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin et al. in view of Fowler et al. as applied to claim 1 above, and further in view of Howe (US 1,342,111).

With regard to claim 4, Baldwin et al. in view of Fowler et al. teaches the device of claim 1, wherein the central node comprises a central base portion (8); and a central vertical member (6) coupled to the base portion.

Baldwin et al. in view of Fowler et al. does not teach that the central vertical member being electrically isolated from said central node.

Howe, in Figure 1, teaches a lightning arrestor surrounding an oil tank wherein a central node is placed on top of the tank and a series of radial spokes are coupled to a central node wherein the central node comprises a central base portion (2); and a central vertical member (1) coupled to the base portion, said central vertical member being electrically isolated from said central node (via isolator 20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Baldwin et al. in view of Fowler et al. with Howe, by incorporating the vertical member and isolator of Howe into the device of Baldwin et al., for the purpose of providing a central vertical member with improved resistance to weather that also isolated the spokes from the tank.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin et al. in view of Fowler et al. and Howe as applied to claim 4 above, and further in view of Guichard (US 1,221,723).

With regard to claim 5, Baldwin et al. in view of Fowler et al. and Howe teaches the device of claim 4.

Baldwin et al. in view of Fowler et al. and Howe does not teach that the central vertical member includes a mechanism for bringing the radial spokes connected to the central node from a first position to a second position.

Guichard teaches a telescopic mast for the producing or receiving electric actions wherein a central vertical member includes a mechanism for bringing the radial spokes connected to the central node from a first position to a second position.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Baldwin et al. in view of Fowler et al. and Howe with Guichard, by incorporating the telescopic mast of Guichard into the device of Baldwin et al. in view of Fowler et al. and Howe, for the purpose of bringing the central vertical member down should one of the spokes be broken in order to quickly replace it (Guichard column 3 lines 15-24).

6. Claims 7, 10 & 18 rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin et al. in view of Fowler et al. as applied to claims 1 & 15 above, and further in view of Van Horn (US 1,193,848).

With regard to claim 7, Baldwin et al. in view of Fowler et al. teaches the antenna of claim 1 wherein each of the plurality of peripheral nodes comprises: a peripheral base portion (16); and a peripheral vertical member (12) coupled to the peripheral base portion.

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Baldwin et al. in view of Fowler et al. does not teach the peripheral vertical member being electrically isolated from said peripheral nodes.

Van Horn teaches a lightning arrestor wherein spokes (8) are electrically isolated from peripheral nodes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Baldwin et al. in view of Fowler et al. with Van Horn, by incorporating the isolation system of Van Horn into the device of Baldwin et al., for the purpose of preventing a shock to an operator should someone touch the peripheral node.

With regard to claim 10, Baldwin et al. in view of Fowler et al. teaches the device of claim 1.

Baldwin et al. in view of Fowler et al. does not teach an isolator coupled to the central node and extending radially to electrically isolate the central node from each of the plurality of radial spokes; and an isolator coupled to each of the peripheral nodes and extending radially to electrically isolate each of the peripheral nodes from each of the plurality of radial spokes and each of the plurality of peripheral spokes.

Van Horn teaches a lightning arrestor wherein spokes (8) are electrically isolated from nodes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Baldwin et al. in view of Fowler et al. with Van Horn as described above.

With regard to claim 18, Baldwin et al. in view of Fowler et al. teaches the method of claim 15.

Baldwin et al. in view of Fowler et al. does not teach that the radial spokes are connected to the central node at one end and to the peripheral nodes at the other end through electrical isolators.

Van Horn teaches a lightning arrestor wherein spokes (8) are electrically isolated from peripheral nodes.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Baldwin et al. in view of Fowler et al. with Van Horn, for reasons given above.

7. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin et al. in view of Fowler et al. and Van Horn as applied to claim 7 above, and further in view of Guichard (US 1,221,723).

With regard to claim 8, Baldwin et al. in view of Fowler et al. and Van Horn discloses the device of claim 7.

Baldwin et al. in view of Fowler et al. and Van Horn does not teach that each of the peripheral vertical members could include a mechanism for bringing the peripheral spokes and the radial spokes connected to the peripheral node from a first position to a second position.

Guichard teaches a telescopic mast for the producing or receiving electric actions wherein a central vertical member includes a mechanism for bringing the radial spokes connected to the mast from a first position to a second position.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Baldwin et al. in view of Fowler et al. and Van Horn with Guichard, as described above.

8. Claims 11-13 & 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Baldwin et al. (US 1,617,788) in view of Fowler et al. (US 5,694,286) and Ball (US 4,017,767).

With regard to claim 11, Baldwin et al. teaches a system for electrifying and ionizing molecules in the atmosphere, the system comprising: an antenna having a polygon base portion, wherein the antenna radiates an electric field to broadcast ions into the atmosphere so as to ionize the atmosphere (as described above).

Baldwin et al. does not teach or a control unit for controlling the power source based on weather data and images.

Fowler et al. teaches a direct current power source for providing electric power to the antenna as described above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Fowler et al. with Baldwin, by as described above.

Ball teaches a lightning rod that ionizes the atmosphere to control lightning strikes comprising a control unit for controlling a power source to turn the device on and off based on weather data and images (column 10 line 26-column 11 line 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Baldwin et al. and Fowler et al. with Ball, by incorporating the control unit of Bal into the device of Baldwin et al. in view of Fowler et al., for the purpose of only turning on the antenna when lightning conditions are in the area so as to conserve electricity and extend the life of the device thus reducing the overall cost of the device.

With regard to claim 12, Baldwin et al. in view of Fowler et al. and Ball discloses the device of claim 11. Baldwin et al. further discloses a plurality of peripheral nodes; a central node spaced apart from each of the plurality of peripheral nodes to form an inverted cone-like shape; a plurality of peripheral spokes for connecting each of the peripheral nodes to the central node as described above.

With regard to claim 13, Baldwin et al. in view of Fowler et al. and Ball discloses the device of claim 11. Fowler et al. further discloses that the power supplied to the antenna from the power source in an amount sufficient to ionize molecules in the atmosphere and thereby to modify weather conditions as described above.

With regard to claim 16, Baldwin et al. in view of Fowler et al teaches the device of claim 15.

Baldwin et al. in view of Fowler et al. does not teach the step of controlling the electric power applied to the plurality of radial and peripheral spokes based on weather data and images to ionize the atmosphere.

Ball teaches a lightning rod that ionizes the atmosphere to control lightning strikes comprising a control unit for controlling a power source to turn the device on and off based on weather data and images (column 10 line 26-column 11 line 18).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Baldwin et al. in view of Fowler et al. with Ball as described above.

Response to Arguments

Applicant's arguments filed 07/31/2007 have been fully considered but they are not persuasive. Applicant is correct that the rejections made under 35 USC §101 and 35 USC §112 were not based on amendments made by the applicant. As such, the finality of the previous rejection has been removed.

In response to Applicant's Declaration and associated arguments found in pages 6 & 7 of the Amendment, the Declaration has been considered but was not persuasive to overcome the previous 35 USC §101 rejection of the claims. Although the data submitted shows an apparent correlation between the present invention and aerosol

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count, it does show a link between the operation of the invention and the weather modification as described in the specification and claims.

Applicant next argues the rejection of the claims under 35 USC § 103. Applicant argues that Baldwin does not teach weather modification in any way. However, in paragraph 2 lines 76-91, teaches that the structure is used to prevent lightning from striking an oil tank. As explained in previous actions, the prevention of lightning strikes to a general area is considered weather modification. Baldwin teaches a structure that broadcasts ions into the atmosphere during times of great meteorological electrical disturbance associated with an impending lightning strike in order to prevent sparking and lightning strikes (column 9 lines 9-15). Baldwin teaches all the structure of the claims except that it does not provide a DC power supply to induce ions into the atmosphere above what are already passively induced into the atmosphere by the conductors.

Applicant next argues that Fowler also does not teach a weather modification device or an antenna capable of modifying the climate. As Applicant admits, Fowler teaches a device that uses a DC source to induce ions from an antenna to prevent a lightning strike. As mentioned above, in the broad sense of the term, weather modification can be interpreted as preventing a lightning strike. As such, it is believed that the combination of Baldwin in view of Fowler does in fact teach the recited claim language and the rejection is maintained.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott Bauer whose telephone number is 571-272-5986. The examiner can normally be reached on M-F 9am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SAB
17 OCT 2007

A handwritten signature in black ink, appearing to read 'MSH 10/28/07', is written over the printed name and title of Michael Sherry.

MICHAEL SHERRY
SUPERVISORY PATENT EXAMINER